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ABSTRACT

Although adults in Germany see positive benefits coming from the introduction of new technology, especially computers, they also fear that the technology will bring about more control of their work and private lives. They also dislike the perceived dangers of dehumanization that computers could have on society. Adult educators in Germany see two main principles of adult education in regard to the new technology. The first principle is the fundamental goal to democratize the access to every sort of information and knowledge; that is, to open to everybody the way to all the information wanted. The second principle is to satisfy the interests and mental needs of the people as broadly as possible; that is, to adjust adult education to the development of as many abilities of human beings as possible. The evolution of television has reduced human beings' primary perceptions of the world while increasing their secondary learning. Another task of adult education could be to increase individuals' primary learning by making adult education increasingly self-directed, with the teacher as facilitator rather than lecturer. One way to increase the self-directedness of adult education would be to use the new technology--computers--for adults to direct their learning experiences. Although the hardware for such tasks is available, software is not; ideas for such software should be forthcoming. It is necessary to continue to examine the expectations of adult education to continue to serve the needs of human beings in a world of increasing technology. (KC)

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GERMAN ADULT EDUCATION AND THE NEW TECHNOLOGY

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G. Dohmen

German adult education and the new technology

Adult educators in the US and in Western Europe seem to be very similar: they have similar aims, similar approaches, similar problems.

But there are also some differences. One of them I guess is that you here in the US seem to be more optimistic, more dynamic, more enthusiastic, more self-confident, whereas among European (especially German) adult educators you'll find a more critic, pondering, doubtful and often pessimistic attitude towards the future in general and especially regarding the possibilities of adult education to promote a permanent 'progress' to a better world and mankind.

These different attitudes seem also to come in if we regard the different approaches of Americans and Germans to the new technologies.

We have a special discussion in the Federal Republic of Germany about the psychical and social effects of the introduction of the new technics, a discussion which is obviously connected with our philosophical and humanistic tradition.

A special part of this discussion concerns the answer of adult education to the personal and social problems caused by the new technics. And this critical discussion shall be the main topic of my lecture.

If we look into some representative inquiries about the opinions of West Germans on the new computer technic we can find that West Germans seem to have a special attitude towards the implications of the computer on our daily life.

A research study of 1982 sponsored by IBM found f.i. that in Italy 74% of the population had a positive opinion about the computer, in Great Britain it was 54%, but in Western Germany only 27% of the population showed a generally positive reaction to the introduction of the computer.

It might be typic that in the US the magazine "Time" declared the computer to be the man of the year 1983, but in Germany the leading magazine "Der Spiegel" favoured George Orwell's critical novel "1984".

But it would be too easy to draw the conclusion that the people of Western Germany would oppose technical progress. A representative opinion research of 1983 (done by the Gesellschaft für Mathematik und Datenverarbeitung together with Infratest) shows that 64% of the West German population is

convinced that the development and application of new micro-electronic computer technics is necessary - chiefly because of economic reasons.

More than 70% of the West-Germans expect some positive effects from the computer on science (especially medicine) and on making hard physical work easier. And 58% expect that the computer will release our heads from intellectual routine work.

So there is no romantic movement in Germany against computers and robots. The so-called public opinion in the FRG seems to be convinced that we cannot manage the complexity of modern planning, production and service any longer without the help of the computer, and 42% of the West-Germans even say that the modern administration and public service institutions would not be able to adequately fulfill their obligations anymore if they do not use modern computers.

But- and this seems to be special - the same people who clearly see the necessity of the new technical developements and expect some main positive effects from it at the same time are anxious and alarmed about some social and psychical implications of this development .

In last year's inquiry 76% of the people were anxious that computers and robots would increase our unemployment rate because they would destroy more jobs than they could newly create.

And more than 80% fear that the computer will help to better order, regulate and control their work and private life. And in this context 42% see the danger that this might also endanger their political freedom. Here you have to consider the influence of the memory of Hitler's technically very effective system of control which today could be even more effective with the help of computers.

And there is a second group of anxieties about the new computer technics in Western Germany: 64% of the people suspect that public service will be more and more impersonal and that computerized services will reduce human relations and personal communication.
And a third group of anxieties relates to the so-called "technostress", especially the mental and nervous stress from continously working in front of an computerized monitor.
It is interesting to see that we do not have two different parts of the population - a party of computer fans and of computer ememies - in West Germany. We rather have a sort of split opinion within the same persons.
If 70% of the people are convinced of the necessity of a continuing technical progress chiefly depending on an increasing use of micro-computers and if at the same time 70% of the same population fear some inhumane effects of this progress and if on the other hand only 27% have a generally positive opinion of the computer and its effects - if you take these figures together, than it seems to be clear that the majority of West-Germans is at the same time in favour of the new technical development and anxious about the psychical and social effects of this development. In other words, the majority of the West Germans is not against progress and change but the people do not want to be changed by developments which they cannot control and integrate into their view of the desirable qualities of human life.

This is an advantageous situation for adult education because it causes a need for more detailed information and better understanding concerning the new technics and their effects in different areas of personal and social life. This might have been a reason why we had this year already several conferences of adult educators in West-Germany which discussed the adequate answers of adult education to the challenge of the new information society. We had a conference on federal level in Berlin and we had several conferences on state levels with topics very similar to the topic of this AAACE Conference.

If you allow me to roughly and subjectively summarize the results of these German conferences I'd say:

There seems to be a large agreement among German adult educators that adult education has a threefold task:

1. to introduce into an effective use of the new technical possibilities
2. to promote reflections on the individual and social effects of these technical developments, that is to promote a clear understanding of the value of the new technics to the necessary advancement of individual freedom, personal communication and social responsibility in the future of mankind and
3. to build up a compensatory adult education which tries to concentrate on the development of those human abilities which do not correspond to the new technics.

Adult education in the FRG today seems to base its attitude toward the new computer technics on 2 main principles:

The first is the fundamental goal to democratize the access to every sort of information and knowledge, that means to open to everybody the way to all the information wanted.

The second principle is to satisfy the interests and mental needs of the people as broadly as possible, that means to adjust adult education to the development of as many abilities of human beings as possible.

What are to be the consequences from these 2 principles for adult education in the new information society?

To democratize the access to knowledge and information that means f.i. to fight against a development which leads to a small group of experts and a large majority of ignorants who fully depend on the experts with their advantage of special knowledge. And it means to distribute as many informations as is available to as many people as possible. There should not be any secret knowledge reserved only for a selected elite.

According to this fundamental principle adult education must also open the access to all the knowledge about computers and data processing. Nobody should be restricted from monopoliced sources of information and knowledge about these new technics and its implications.

That is not something special for this content, it is a general principle of adult education.

We have learned by bad historical experience that this open access to information and knowledge is an indispensable condition for a free democratic society. That is why we try to organize now everywhere in West-Germany courses on the use and the importance of the computer for everybody.

Now the consequences from the second principle derived from the old humanistic idea of the preservation and development of the totality of the entire person (which not only comprises rational and logical abilities).

This view forces adult education to promote a critical consciousness of the one-sided contribution of electronic technics to the crucial problems of humanity. Seen from this broader anthropological view, the computer seems to be only a limited tool of limited importance for the development of humanity in the world. The human abilities which correspond to electronic data processing are a special logical binomial way of thinking which reduces interdependent complexities to sequences of many simple yes-no decisions.

This means that adult education has to concentrate on the compensatory development of those human traits and abilities which are not challenged in a computerized world - such as aesthetic sensitiveness, artisan creative skills, moral responsibility, social awareness, emotional strength, spontaneity, independent thinking, etc.

This anthropological design of adult education is based on the critical question: What is the significance of the new technic for the promotion of humanity, which fundamental human needs do they meet - and which do they neglect?

Human beings seem to have a general want of security against the incalculable power of nature. That is why we try to build up an artificial second civilised world which makes our lifes easier, safer, more comfortable, better to be ruled, better adapted to human needs and interests.
This man-made world of technic civilisation will certainly be developed by the new electronic technics. And the world in which we live will be made considerably more calculable with the help of the computer.
We will have more processes of production and service which can be strictly governed by pressing the right buttons. The incalculable reactions of nature and of irrational self-willed human beings will be more and more excluded from this computerized production and service.

So the introduction of the computer will cause a further progress on our way to govern and control nature, to exploit natural powers for the establishment of new secondary systems which will be more and more super-imposed on the natural roots of our living on this planet.

This might satisfy one special human requirement - to be powerful governors in a calculable world - but it at the same time can restrict the possiblities to satisfy other human needs. The need of human contact and personal communication f.i. will not be satisfied if our personal computer makes us order, buy, pay everything from our armchair without meeting people in the shops, without talking to the friendly lady behind the counter of the bank office - or if we play a game of chess with the computer and not with the lonely widower in the neighbourhood .

This is a challenge for a compensatory adult education: Adult education will have to provide new opportunities to meet other people, to talk and discuss with them, learn to be tolerant to self-willed partners and opponents, develop social abilities etc.

To avoid the development of a one-sided "homo technicus" who expects to rule everything by pressing the right buttons adult education will have to give to people new opportunities to be confronted with the obstinate reality of natural materials, creatures and situations because these experiences seem to be necessary for the development of a realistic knowledge of our own personal abilities, limits, pecularities and of empathy and social responsibility.

That means: Adult education has a very important compensatory task if it feels obliged to the idea of the necessary promotion of the many-sided richness of humanity.

And there seems to be a large agreement among German adult educators that we need this larger context of a broader development of different human traits and abilities if we try to find an adequate answer to the challenge of the new computerized information society.

Within this larger context we can and must then also strengthen the special competencies for the perception of the structures,orga-

nizational forms and classifying characteristics of different systems of electronic data programming and data processing. But only within a broader context of other approaches towards complex realities it can be understood that modern computer science is only one special way to reduce "natural" complexities and to simulate a new one-sided artificial reality which is not at all the reality but only a special substitute of it.

We think adult education has to refer to the whole range of different approaches to the many-sided reality within and outside of human beings, because this is a presupposition for an adequate judgement of the relative value of every single special approach. And we think it is important for adult education to favour and evolve this broader view of reality as well as of humanity in order to induce a critical awareness also of the limited value of the new electronic information technics.

This broader view should help people to find a sober reasonable relation to the "new age of electronics" and to get the necessary sovereignity and serenity in their attitude towards the computer and its implications for their daily lifes.

We also had long discussions in the FRG about the impact of modern mass-media, especially television, on adult education.

Nobody doubts that in the new information society the mass-media are still a challenge to adult aducation. And I think a majority of the German adult educators has a similar split attitude towards the mass media as I have tried to describe it in their relation to the computer.
There is a small group of colleagues who are TV-fans and think of educational TV to be the new way of a real modern adult education. And there is also a small group of adult educators who think of TV as the superficial enemy of any solid education. But the majority of West German educators tries to find a more differentiated way between these 2 extremes.

A typic approach to this more differentiated view is the reflection

on the relation between primary and secondary experiences.

The so-called "primary experiences" arise from the direct interchange with reality. They are supposed to be fundamental for the development of our personal cognitive structures and of our individual views and judgements and for the establishment of our personal and social identity.

The so-called "secondary experiences" are second-hand experiences, selected and arranged by others and chiefly transported by media.

It seems to be important that we realize how the modern information society has changed the relation between these 2 kinds of experiences:

It has caused a tremendous increase of information on the experiences of others (the so-called "secondary experiences") and it has reduced the amount of direct experiences in the context of an active personal interchange with an unprepared piece of reality (the so-called "primary experiences").

Neither of these two kinds of experiences gives an objective picture of the so-called "reality"; but it is the main difference that in my direct contact with reality it is my personal impression, my personal comprehension, my personal selection and my personal accentuation that leads to my personal primary experience whereas the information which I get from TV comes from a team of media people who take a lot of pictures, select some single ones and combine them to a new abbreviated picture which is supposed to be more condense and more exciting than reality. In other words:

In the world of primary experiences the individual person is the organizing center for a personal view or personal cognitive simulation of reality. In the world of secondary information the individual person does not come into direct touch with the full context of events and situations which need to be personally selected, accentuated, integrated and productively simulated - it is already a simulated world with relatively arbitrary simulations manipulated by professional opinion makers. But this sort of simulation cannot be integrated into a person's view it is alienating because it seems to be disparate. So it must be assimilated and productively changed

as far as possible by the personal imagination and cognitive structure.

This seems to be a similar problem as we saw it with data processing: The natural appearances and their impressions on our eyes, ears and cognitive systems will be decomposed by others, divided up into small units which are more or less transformed in a new code and newly arranged to a "refined" simulation of the "natural" appearances. Both sorts of simulations fit into the concept of the establishment of a world of artificial secondary systems - especially prepared for a normal type of consumer. So we could perhaps say:

to live in an information society means to live in a simulation society.

What are the consequences of this critical analysis for adult education?

In the German discussion there seems to come out a consensus on 2 points:

First of all adult education should not just distribute more second hand information in addition to the flood of secondary information which already comes out of the mass media. But adult education should try to give all sorts of help which allow people to personally understand, classify and set in order the flood of disparate information and to integrate also these secondary experiences - as far as they seem to be meaningful - into their personal structures of thinking, feeling and judging.

Second consequence: Adult education should promote a critical consciousness of the simulation character of media information and it should give more opportunities to make fundamental primary experiences, f.i. by hobby-working, excursions, projects etc. This sort of compensatory adult education should then help to find a better balance between the fundamental primary experiences and the increasing number of second hand informations.

I personally draw a more general consequence:

Adult education in an information society should concentrate its

efforts to the promotion of more individual self-initiative and independance in thinking, judging and acting, f.i. by favoring and supporting all sorts of self-directed learning.

We must strengthen the individual person and his or her mental and imaginative capacity and productivity because this is the organizing center for the arrangement and personal interpretation of the increasing flood of information. The self-willed person and his or her self directed learning have to be saved from being submerged in this flood.

In a stage of scientific and technical development where "natural" complexities are systematically dissolved to elements which then are set up to new artificial units and sequences - in such an age of simulation an adult education which is related to the idea of humanity must try to put the free human person into the center of these simulation processes.

That means that adult education must encourage the individual person to productively work up their primary and their meaningful secondary experiences with the help of their personal, biographically imprinted structures of thinking, feeling and judging so that there finally will come out a new meaningful whole, personally shaped and composed by a full human identity. This is then a sort of human simulation which not comes out of one single human trait but which stems from a whole integrated human person with many different traits and abilities.

Now let me finally say a few words about the methodical consequences for the practice of adult education.

To promote more self-directed personal learning means

- to support those learning processes which give to the learner a decisive influence on the goals, contents, methods, place and time of his/her learning process,
- to favour more open learning, self-organized individual and group-work,

- to change the role of the teacher to that of an animateur, a broker, an advisor who helps adult learners to get the informations, to make the experiences, to find the colleagues he or she needs for his or her special learning process,
- not to organize rigid centrally planned courses with narrow prescriptions of every learning step but to offer small learning-modules each of which giving just the main information and the necessary main advice to one theme, problem or phenomenon, thus enabling the individual learner or learner group to seek out and to assemble just what corresponds to their acute needs.

In this context of an open, free, self-directed learning-device it can be helpful to use modern media and a compterized information retrieval system - as a tool to enrich and support self directed learning and to find adequate sources for the needed information and experience. In this context an electronic brokery-system which brings together learners and experts might be an interesting perspective. A personal computer which combines the functions of telephone, telex and TV could be a fine flexible instrument fastly giving the needed information and advice for individual learning processes.

So the central question seems not to be <u>whether</u> to use computers and modern media in adult education but <u>how</u> to use them.

And the critical criterion then is the service-function of modern technics for the promotion of self-directed learning processes of free human persons.

The main problem on our way to this self-directed learning is not the technic, the hard ware, but the lack of adequate soft ware, adequate computer programs for this sort of open self directed learning. And here we look to the US and hope to get ideas, new approaches, convincing examples from you - especially to make the way to the needed information easier for normal adults.

Adult learning seems to be a dialectic process in which personal structures, personal conceptional and reactional dispositions on the one hand and disparate experiences and informations on the other hand must be brought together to a synthesis in such a way

- that the individual person can preserve and furtherly develop the identity of his/her cognitive emotional and imaginative structure and
- that the learner can adequately match the challenge of new informations and situations.

From this view of the learning process stems the conviction that it is not simply the new informations or the new situations which by themselves have a special learning effect but rather the productive manner in which they are individually accepted, assimilated invested with meaning and personally integrated.
It is as a result of such processes of a constructively integrating elaboration of meaningful personal simulations of reality that the personally characteristic, cognitive, affective, social and normativ dispositions of the learner then develop and become more differentiated.

And these personal dispositions then not only determine the personal behavior but also all further learning processes. So their development and strengthening seems to be decisive for the ability of human beings to adequately meet the challenges of the new information and simulation society.

Here I should like to finish my report about the reaction of German adult educators to the new information technology.

Now let me ask you some questions:

- What do you think is similar in the German and the US discussion?
- What are the differences?
- And what are the arguments we could learn from you in order to promote a more positive and constructive attitude towards the new technics among our adult educators?
- What is your opinion about the critical compensatory approach of German adult education to the new information technologies?
- Would you say we should equally concentrate on the double task to make people acquainted to the computer and its effective use - but also to make them understand the one-sided approach to reality and the one-sided development of human abilities and attitudes which are favoured by the computer and its use - and which forces us to build up a compensatory general education which fosters and develops those human abilities, competences and attitudes that are neglected or excluded from the world of computers, robots and electronic simulations ?
- Do you think we are too pessimistic if we concentrate also on the dangers coming from the new technologies and if we try to build up a sort of compensatory adult education?
- Do you agree to an educational stategy which first of all tries to strengthen the creative independent person who prefers to learn in a free self-directed way?
- Or what are your priorities in adult education confronted with the new information technology?
- What is your personal opinion and strategy as adult educators in front of the challenges of the new technologies and the new information age ?
- What help can you give to us from your experience and from your discussion here in the US?